

Claims

1. A film-type catalyst for production of a tertiary amine, which is used in producing a tertiary amine from an alcohol and a primary or secondary amine as the starting material.

2. The film-type catalyst according to claim 1, which has a thickness of 100 μm or less.

3. The film-type catalyst according to claim 1 or 2, which comprises copper.

4. The film-type catalyst according to any of claims 1 to 3, which is fixed on the surface of a substrate.

5. The film-type catalyst according to any of claims 1 to 4, which has a pore volume of 0.5 to 30 mL/m^2 and comprises synthetic resin in an amount of 20 to 80 parts by weight relative to 100 parts by weight of a powdery catalyst on the basis of the starting material.

6. The film-type catalyst according to claim 5, wherein the synthetic resin comprises thermosetting resin.

7. The film-type catalyst according to claim 5 or 6, wherein the synthetic resin comprises phenol resin.

8. The film-type catalyst according to any of claims 1 to 7, wherein the substrate is a metal foil.

9. The film-type catalyst according to any of claims 1 to 8, wherein the substrate is a honeycomb structure.

10. A process for producing a tertiary amine, which comprises a step of reacting an alcohol with a primary or secondary amine in the presence of the film-type catalyst of any of claims 1 to 9.

11. Use of the film-type catalyst of any of claims 1 to 9 in production of a tertiary amine by reacting an alcohol with a primary or secondary amine.